HOMOPLASTIC SURGERY OF THE EYELIDS

at least one mention in the British Medical Journal of its use in promoting more rapid healing of extensive wounds of the limbs, and my house surgeon has recently called my attention to a very brief reference to its use in indolent ulcers. (Pye’s Surgical Handicraft.)

There would appear to be some scope for further investigation of its action in hospitals with more abundant material and facilities for controlled experiments.

Three possibilities suggest themselves to me. Either insulin improves the patient’s nutrition, or removes some factor necessary for germ-metabolism, or it increases the rate of epithelial proliferation. If so it may be worth a more extensive trial in war surgery as well as ophthalmology.

TWO RARE CASES OF HOMOPLASTIC SURGERY OF THE EYELIDS*

BY

N. I. SHIMKIN

HAIFA, PALESTINE

Two successful cases of homoplastic surgery of the eyelids are described, both having unusual clinical features.

The first case.—Post-trachomatous trichiasis in a haemophilic youth was treated by a graft from the buccal mucous membrane of his father. In the ophthalmic literature which I have consulted, I have not been able to trace a single similar case.

The second case.—Four lid ichthyosis ectropion in a baby of 13 months suffering from a congenital generalised ichthyosis was treated with whole skin grafts from the forearm of his mother. Four lid ectropion in congenital ichthyosis has been seldom described but Elschnig reports a successfully treated case in 1912, published in 1923.

Case I


The patient was advised to be operated on for trichiasis. He consented and asked for the operation to be performed immediately, as he was afraid of losing the sight of the left eye altogether.

*Received for publication, April 24, 1945.
The operation.—On January 28, 1944, at 2 p.m., the grafting operation was successfully performed at my eye surgery under a local anaesthetic. The transplant was taken from the mucosa of the lower lip of the patient. The operation passed off without any complications. As usual, no sutures were used, neither on the lid, nor on the implant, which was carefully inserted and fitted into the intermarginal incision. The patient was ordered to return to the surgery on January 30.

On January 29, 1944, very early in the morning, the patient accompanied by his father, came unexpectedly to me at my home. His outward appearance was frightening, his head was covered with a blood-stained scarf, as worn by Arab peasants. The dressing over the eye was soaked with blood, which was also oozing from under the bandage. He was also spitting blood continuously. The father, seeing my amazement, explained that his son, even after the slightest injury to a finger would bleed for weeks, and that he had told him to inform the surgeon of this fact. The son, however, had withheld this information for fear that he would not be operated on. The father also said that his wife had two sons by her first husband. One had died after circumcision as practised by Mohammedans. The other son at the age of 2½ years fell and knocked out three front teeth. Bleeding could not be arrested, and ten days later, the child died from loss of blood. Two brothers of his wife also suffered from haemophilia. One had died at the age of 19 years from continuous haemorrhage following a head injury. The other was still alive, and was now 42 years of age; from the slightest wound, he would bleed for a long time, though bleeding would eventually stop. This history revealed that my patient was a hereditary haemophiliac. As no medical treatment is of any value, it was decided to sew down the implant if it still lay in its bed. When the dressing was taken off, the implant was lying among the blood clots. Having cleaned the wound of blood, and freed the implant from the clots, I put it into the wound again, and fixed it to the exterior edge of the incision, by means of three loop sutures. The lip wound was closed with five knot sutures, and an occlusive bandage applied to both eyes. The patient and his father were told that if the dressing did not again become saturated with blood, he should come only in 2 days time.

On January 31, 1944, the patient came, accompanied by his father and mother. The dressing was again saturated with blood. The mother related that the bleeding from the eye had begun the night before, but that the bleeding from the lip wound was considerably less. But during the night the eye had bled to such an extent that the whole pillow was soaked. When the dressing was removed it appeared that the implant had again been dislodged by the underlying blood clot. There was nothing to do but to remove the implant and to sew tightly the edges of the incision, and
in this way to stop the bleeding. But by this means, the trichiasis would not have been corrected, and the patient would have remained in the same condition as he was before the operation. To attempt another method of operating for the trichiasis was also impossible, as with any wound to the skin of the lid or tarsus (e.g., operations of Snellen, Hotz-Anagnostakis and others), the bleeding would have started again.

There only remained to try and see if the father's blood would coagulate the blood of the son. The father consented. When the father's forefinger was pricked, the blood was made to drop straight into the wound on the intermarginal space, his finger actually touching the wound. With this, the bleeding from the eyelid stopped after the wound had been touched three times in as many minutes. Seeing that the father's blood coagulated the blood of the haemophilic son, I decided to take a mucous graft from the father's lower lip. The father consented and on the same day a piece of mucosa was taken from the father's lower lip, under local anaesthesia (drops of 5 per cent. cocaine hydrochlor.) and put into the intermarginal incision of the lids. Anaesthesia of the lids of the patient was obtained by means of injection of 2 c.c. of 4 per cent. hilocain solution with adrenaline. The graft was carefully fitted to the wound. No sutures were applied either to the lids of the patient or to the father's lip. Both eyes were bandaged. Father and son were sent away and told to come in two days time.

On February 2, 1944, the patient was brought by his mother, who said that the dressing had remained dry all the time. When the eye was opened, the graft was found to be lying in its bed, and looked as well as any mucous transplant used for a normal graft. Red protosil 5 per cent. ointment was again inserted and a dressing applied to both eyes. From the patient's lip wound which had now been sewn up, there was still some light bleeding. The mother said that the father's lip had bled only very slightly, and he had gone to work the same morning. The patient was told to return after two days.

On February 4, 1944, the patient was brought by the mother who said there were no signs of bleeding on the bandage, and that the patient wanted to use the eye which had not been operated on. When the dressing was taken off, the implant was found in good position; its colour, as with all mucous grafts was pinkish-red. The patient could freely open his eye. Atropine 1 per cent., red protosil ointment 5 per cent., between the lids, and sulphanilamide, 2 tablets t.d.s. were prescribed. This time a dressing was applied only to the left eye, and the sutures were removed from the lip, from which a little bleeding occurred, and a mouthwash of hydrogen peroxide was given. (Further routine treatment for trachoma was carried out: 6 tablets of sulphanilamide daily, 2 tablets t.d.s. and atropine 1 per cent.)
On February 8, 1944, the patient was demonstrated at a meeting of the Haifa Jewish Medical Association. Since the surgeons who were present expressed a doubt concerning the final results, the patient was demonstrated again the following week. The isograft or homograft was lying in its bed, its colour normal, pinkish-red.

![Fig. 1](image)

One month after operation. *Left eye.*—Post trachomatous trichiasis in a haemophiliac, corrected by graft from his father's mucous membrane.

The lid showed a complete correction of the former trichiasis, vision was 6/24, pannus ulcerosus had disappeared (see Fig. 1 for photograph of patient, one month after operation).

**Conclusion.**—Persistent bleeding in a haemophilic youth was controlled by the blood from his father. An isograft taken from the father's buccal mucous membrane transplanted perfectly and corrected the trichiasis in his haemophilic son.

**Case II—Ichthyosis congenita with four lid ichthyosis ectropion**

**Review of literature.**—The four lid ichthyosis ectropion in the cases of congenital ichthyosis is rare, because such children usually die in their first year. In the *British Journal of Ophthalmology*, since 1916, no such case has been recorded. Neither is there any mention of ectropion ichthyosis of all four eyelids in the French literature till the year 1939. (*Traité d'ophtalmologie*, Vol. I, p. 8, 1939.)
Homoplastic Surgery of the Eyelids

In the old German literature collected by Groenow, covering the period from 1886 up to 1920, he mentions his own case of ichthyosis ectropion only of lower eyelids in a man 45 years old, and also several cases of slight ectropion accompanied by changes in the cornea.

During the last 20 years, I have found in the new German literature only two cases similar to the one I am about to describe. In February, 1923, Sondermann described a complicated case of ectropion caused by congenital ichthyosis, in a boy of 13 years suffering also from a perforated corneal ulcer e lagophthalmos. The boy died from tuberculosis a month after the article was published, but Sondermann concluded it by advocating as early an operation as possible to correct the ectropion.

In the above mentioned article Elschnig recorded that as early as 1912, he had performed a plastic graft on all four lids in a patient of 9 years, and although 11 years after the operation, ichthyosis developed on the implant, the function of closing the eyelids remained good. The graft in this case was taken from the inner side of the forearm of the patient’s sister, three years his senior.

On account of the rarity of the case I have thought it worth while to describe it in detail.

On September 1, 1943, Dr. Ostrovsky, a specialist for Infants' Diseases of the Hadassah Hospital, Haifa, sent me a child suffering from ichthyosis congenita. The boy, 13 months old, was the fifth child of healthy parents (Moslem Arabs). The four older children were born healthy, and had no abnormalities of the skin. This fifth child was born normally, but since his birth, his whole body was covered with a hard scale-like skin looking like crocodile leather. In general the child ate and put on weight normally. The only reason why the mother sought the advice of an eye specialist, was that on the slightest crying, the child’s upper lids would turn outwards and “red flesh” would cover the eye.

On examination.—The body of the child was covered with hard skin as if with brown fish scales (ichthyosis nigricans); the colour of the scaling resembling that of the broken skin of a baked apple. When examined the child started crying, and both upper lids turned outwards, as with spastic ectropion in scrofulous children suffering from acute conjunctivitis. When the child calmed down, it was observed that the edges of the upper and lower lids were raised from the eye-ball and their posterior borders were not in contact with the globe. The reason for the “non contact” was the parchment-like, non-elastic skin of the upper and lower eyelids, which did not allow them to fit closely to the eyeball, pulling the edges of the upper lids upwards, and those of the lower downwards. The same thick hard skin covered completely the whole body of the child.
As the turning outward of the eyelids happened every time the child cried, so the conjunctiva thus exposed to the atmosphere, dust, etc., naturally looked like "red flesh" and frightened both the mother, father and anybody who saw the infant in such a state. It was clear that in order to correct the spastic ectropion it would be necessary to separate, at the lid-margin, the thick parchment-like skin from the underlying lid-tissues by inserting a skin graft. But, as the skin on the whole body of the child was not normal, I had to suggest that the mother should give some skin from her forearm for grafting her child's eyelids. Her consent being obtained, I started the operation.

On September 1, 1943, the operation passed off successfully without any complications. The lids and grafts after the operations were dusted with sulphanilamide powder, and covered with 5 per cent. red prontosil ointment; occlusive dressing was applied to both eyes. In view of the fact that the patient's pulse became arhythmic, the grafting of the lower lid of the left eye was postponed.

On September 3, 1943, i.e., on the second day after the operation, the dressing was changed for the first time. The isografts were in their beds and seemed healthy.

FIG. 2.

Four lid ichthyosis ectropion corrected by whole skin graft taken from his mother's left arm. Note.—Red scar on the mother's upper arm (post secundam intentionem). Left lower lid of baby was not grafted.
HOMOPLASTIC SURGERY OF THE EYELIDS

On September 9, 1943, all isografts were in place and the child opened the lids without any difficulty, and when crying, his upper lids remained in the normal position. When closing the eyes, the lids were in complete contact with the globe on the right side. On the left side, the slight ectropion of the lower lid remained as it had not been corrected. The upper left lid though, was in complete contact with the globe. The child was sent home without a dressing. The mother was satisfied with the result achieved, and did not want another operation on the left lower lid.

On October 15, 1943, the mother brought the child again saying that the "red flesh" did not protrude out of the eyes any more, and that she was satisfied with his condition. She stressed again that she did not want to subject herself or the child's to another operation for correcting the ectropion of the lower lid of the left eye. (See photograph taken on October 15, 1943.)

The child was brought for demonstration at the meeting of the Jewish Medical Association, Haifa, on November 21, 1943, i.e., seven weeks later. The corrected lids were functioning perfectly and their colour quite satisfactory from the cosmetic point of view. According to the mother, the child was happier, and even when he cried, the lids did not turn outwards.

The thesis of McWilliams and others¹ "that isografts are valueless" does not apply to eyelid surgery. In fact under certain conditions an isograft may even be the method of choice.

The author gives a description of two very rare homoplastic operations on the eyelids: first operation till now was not mentioned in ophthalmic surgery, i.e., the buccal mucous membrane of the father used to correct the trichiasis of his haemophilic son; and also only the second case in ophthalmic literature the whole skin graft of the forearm of a mother corrected the four lid ichthyosis ectropion of her child of 13 months old.

REFERENCES